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Attorney Docket No. CEO-012.02

REMARKS

This Response is filed in reply to the Office Action dated July 15, 2004. In this Response, Applicants amend claims 1, 3-5, 17, and 19-22, cancel claims 2, 11-16, and 18, add new claims 23-27, amend the specification and abstract, as provided herein, and traverse the Examiner's rejections of claims 1, 8-18, 21 and 22. Amendments to the claims are not an acquiescence to any of the rejections. Further, silence with regard to any of the Examiner's rejections is not an acquiescence to such rejections. Specifically, silence with regard to Examiner's rejection of a dependent claim, when such claim depends from an independent claim that Applicants consider allowable for reasons provided herein, is not an acquiescence to such rejection of the dependent claim(s), but rather a recognition by Applicants that such previously lodged rejection is moot based on Applicants' remarks and/or amendments relative to the independent claim (that Applicants consider allowable) from which the dependent claim(s) depends. Upon entry of the amendments, claims 1, 3-10, 17, 19-27 are pending in the present application.

No new matter was added by the amendment provided herein.

The issues of the Office Action are presented below with reference to the Office Action.

With regard to paragraph 1: Applicants amend the substitute specification filed with the Response to Notice to File Corrected Application Papers to provide a claim of priority to the application, and to provide the current status of the parent application. Based on the Examiner's comments, Applicants' October 30, 2003 preliminary amendment was not entered, and that accordingly, the amendment for the claim of priority as provided herein are made with reference to the substitute specification filed with the February 12, 2004 Response to Notice to File Corrected Application Papers.

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With regard to paragraph 2: Applicants amend the substitute specification to add the section title "Brief Description of the Drawing", as requested by the Examiner. Additionally, Applicants amend the paragraph following the added section title to identify Figure 1, and to more clearly describe it. Applicants also amend the specification to add the section title "Detailed Description" following the "Brief Description of the Drawing" section, to more clearly indicate that the paragraphs following the "Brief Description of the Drawing" section pertain to the detailed description of the embodiments described in the application.

With regard to paragraph 3: Applicants amend the Abstract to identify features claimed in the claims of the current application, and to remove wording such as "said", as requested by the Examiner. No new matter was added by this amendment.

With regard to paragraph 4: The Examiner requested that appropriate action be taken with respect to the legal phraseology appearing in the specification, for example, at page 5, lines 6, and 18. The Examiner appears to refer to the use of the wording "said", appearing at several places in the section entitled "Summary of the Invention".

Applicants note that neither rule 37 C.F.R. 1.73, nor section 608.01(d) of MPEP, both of which pertain to the form to be used in the specification's Brief Summary of Invention, requires that language such as "said" not be used. In fact, as both rule 37 C.F.R. 1.73 and MPEP 608.01(d) make clear, the brief summary of invention should be consistent with the subject matter of the claims. Since the word "said" is commonly used in claims, and thus in summaries of inventions, Applicants do not consider the use of wording such as "said", as it appears in the summary of invention of the current application, to be objectionable. However, Applicants have amended the section as requested by the Examiner.

With regard to paragraph 5: The Examiner stated that the substitute specification submitted with the February 12, 2004 Response to Notice to File Corrected Application Papers is improper under 37 C.F.R. 1.125(b) because there was no statement that the substitute specification contains new matter, no marked-up copy of the substitute specification was

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provided, and the substitute specification did not contain the specification amendment referred to in paragraph 1 above.

With respect to the statement regarding no new matter, Applicants state and confirm, in accordance with rule 37 C.F.R. 1.125(b) that the *substitute application submitted with the February 12, 2004 Response to Correct Application Paper, contained no new subject matter*. Applicants thank the Examiner for pointing out this oversight.

With respect to not providing a marked-up copy of the specification, Applicants note that the amendments made to the originally filed specification, as reflected in the substitute specification, were to increase the line spacing in the Claims section of from single-line spacing to 1 1/2 line spacing, as was requested by the Notice to File Corrected Application Papers, dated February 2, 2004, a copy of which is transmitted herewith for the Examiner's reference. Since the amendment did not involve the addition of content to the specification that could have been marked-up, the substitute specification was not marked-up.

With respect to not containing the specification amendment referred to in paragraph 1 of the Office Action, this response makes the requested amendment to the substitute specification. Thus, Applicants consider the Examiner's request appearing in paragraph 5 to have been complied with.

With regard to paragraph 6: The Examiner objected to claims 1-22 under 37 C.F.R. 1.75(a) for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention.

More particularly, with respect to claim 1, the Examiner observed that the preamble of the claim does not specify what method is being referred to. While the Applicants submit that 37 C.F.R. 1.75(a) does not require that a statement of purpose or intended use be included in the preamble of a claim, and that, as provided in MPEP 2111.02, if the body of the claim fully and intrinsically sets forth all the limitations, such statements of purpose or intended use are "of no significance to claim construction" (*Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 51 USPQ2d 1161, 1165), in the interest of expediting prosecution of this

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application, Applicants amend the preamble of claim 1 to indicate that the method claimed is directed at operating a data classifier.

The Examiner also observed that the last lines of claim 1 do not point out how exactly the measures of difference are being used to generate the performance measure of the data classifier. Applicants amended independent claim 1 to more explicitly state the inherent feature of claim 1 that generating a performance measure is based on the number of measures of difference that are associated with the categories of the measures of difference. Applicants respectfully submit that, as required by 37 C.F.R. 1.75(a), the amended claim thus particularly and distinctly claims the subject matter which the Applicants regard as their invention, namely, that calculation of a performance measure of the data classifier are based on the number of the measures of difference associated with categories of measures of differences. For reasons that are more particularly set out below, Applicants consider that feature, and other features in amended independent claim 1, to be distinguishable from the prior art, and thus patentable and allowable. Applicants further note that, as is conventional under U.S. patent practice, the claims that depend from claim 1, including, for example, claim 3, more particularly describe the Applicants' invention, including the feature of generating a performance measure of the data classifier.

With respect to Examiner's comments regarding claims 11-15, as more particularly provided in Applicants' response to Examiner's rejections as specified in paragraphs 7-11 of the Office Action, Applicants cancelled claims 11-16 and added new system claims 23-27 describing features corresponding to the features of the cancelled claims, but without using language that refers to "a process capable of". Applicants also note that the term "categories" as used in new claims 23-27 has a proper antecedent basis in new claim 23.

With respect to Examiner's comments regarding claim 17 and the use of the language "A processor program for operating a data classifier, the processor program disposed on a processor-readable medium and comprising instructions to cause a processor to:", Applicants amend the preamble of claim 17-22 to more clearly provide that the claim is directed to a computer product, and not to a processor program. Applicants consider that

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this amendment resolves any confusion that may have been drawn from the old language of the claims. In that respect, the Applicants further note that the amended claims contain conventional claim language that is commonly used and considered proper by MPEP. As more specifically provided in MPEP 2106.III.B.1(a):

... a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory.

Thus, Applicants' amended claims 17-22, describing computer product disposed on a computer-readable medium, and further describing what the instructions disposed on the computer product cause a processor to do, permit the computer program's functionality to be realized, as required by MPEP.

With regard to paragraphs 7-10, entitled "Claim Rejections - 35 USC § 101 and § 112:" The Examiner rejected claims 11-16 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter in that, according to the Examiner, the claims are hybrid claims claiming both apparatus and the method steps of using an apparatus. The Examiner also rejected claims 11-16 under 35 U.S.C. § 101 for being directed to a non-statutory subject matter, in that claim 11, and the claims depending therefrom, are, according to the Examiner, directed to neither a process not a machine.

Applicants do not consider that claims 11-16 as originally filed recite apparatus and steps for using the apparatus, nor do the Applicants consider the claims to be unpatentable under 35 U.S.C. § 101. However, in the interest of expediting prosecution, Applicants cancel claims 11-16 and add in their stead new claims 23-27. Applicants' new system claims 23-27 disclose features previously described in claims 11, 13-16, respectively, in a form which Applicants consider satisfies 35 U.S.C. § 101 and § 112, second paragraph. New claim 23 also includes the features previously described in now cancelled claim 12.

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With regard to paragraphs 11-12, entitled "Claim Rejections - 35 USC § 102:" The Examiner rejected claims 1, 2, 8-12, 15-18, 21 and 22 under 35 U.S.C. §102(b) as being anticipated by Field et al. (U.S. Patent No. 6,038,555).

Applicants amend independent claim 1 to include the features, previously recited in claim 2, of associating the measures of difference with categories corresponding to different values of measures of difference, and to more explicitly state the inherent feature of claims 1 and 2 that generating a performance measure is based on the number measures of difference that are associated with the categories of the measures of difference. Applicants accordingly cancel claim 2. Applicants also amend claim 3 to make it dependent on independent claim 1, and amend claim 4 to more clearly indicate that the feature described is that of *associating the categories*. Applicants similarly amend companion independent computer product claim 17, cancel claim 18, and amend claim 19 to make it dependent on claim 17. As previously indicated, claims 17, and 19-22 were all amended to make it clear that the claims are directed at a computer product.

Applicants' amended independent claim 1 thus discloses a method for operating a data classifier, the method comprising: providing test input data elements and corresponding test output data elements, providing the test input data elements to a data classifier to generate result output data elements, generating measures of difference based on differences between each test output data element and each corresponding result output data element, *associating the measures of difference with categories corresponding to different values of measures of difference, and based on the number of measures of difference associated with categories, generating a performance measure of the data classifier.*

As Examiner knows, and as provided in MPEP 2131, "a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference" [emphasis added] (*Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053). Applicants respectfully submit that Field does not disclose all the features of Applicants' independent claim 1.

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Field describes an anomaly detection engine which provides neural network technology to process information and detect anomalies (such as mobile phone fraud) in the information (abstract). While Field discloses calculating a value that is indicative of the accuracy of the resultant output values, and thus indicative of the performance of the neural network, by inputting a series of inputs and comparing the resultant output values with their respective expected output values (col. 5, lines 38-46, and col. 11, lines 1-16), Field does not disclose *associating the measures of difference with categories corresponding to different values of measures of difference, and based on the number of measures of difference associated with categories, generating a performance measure of the data classifier*. Rather, Field describes that to evaluate the performance of the neural network during normal operation, the network calculates difference values between actual and expected outputs to compute a single value representative of the performance of the network (col. 11, lines 11-15). Field, however, does not describe how that single value is calculated.

Field also describes, in reference to the neural network training procedure, that the sum of square error between the actual and expected output values of the network is computed to determine if the neural network is performing well enough that the training can be stopped (col. 14, lines 21-29). But nowhere does Field describe using tables or categories to track the distribution of the difference values over different error ranges so as to determine the number of times difference values falling in different error ranges were produced, and thus Field does not use such tracked distribution to refine the performance measure of the neural network or data classifier, either during training or during regular operation, *based on the number of measures of difference associated with categories*.

Although, as the Examiner noted, Field refers to "category" when it states that "[t]hese validated results 48 are also referred to as 'profile identification and category' information" (col. 10 lines 25-26), the "category" referred to corresponds to a classification of anomaly candidates processed by the neural network into real or misidentified anomalies (as provided in col. 10, lines 22-25, "the validated results comprise information about whether anomaly candidates identified by the neural network are real anomalies or not"),

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and does not correspond to categories of different error ranges into which the calculated difference values between the resultant and expected output values of the neural network can be placed or classified. The "category" described in Field is thus not the same as Applicants' *categories corresponding to different values of measures of difference*.

Since Field does not teach Applicants' independent claim 1 features of *associating the measures of difference with categories corresponding to different values of measures of difference, and based on the number of measures of difference associated with categories, generating a performance measure of the data classifier*, Applicants traverse the Examiner's 35 U.S.C. §102(b) rejection of independent claim 1, and consider independent claim 1 to be allowable. Applicants also traverse the Examiner's rejections of dependent claims 3-10, and consider claims 3-10 allowable for depending from an allowable base claim.

Independent claims 17 and 23 are companion computer product claim and system claim, respectively, of allowable independent method claim 1, and include similar features to those described in Applicants' allowable independent claim 1, including, for example, *associate the measures of difference with categories corresponding to different values of measures of difference, and generate a performance measure of the data classifier based on the number of measures of difference associated with the categories*. For the reasons stated previously with respect to Applicants' allowable independent claim 1, Applicants traverse Examiner's rejection of independent claim 17 and consider independent claim 17 and new independent claim 23 to be allowable. Since claims 19-22 and 24-27 depend from allowable independent claims 17 and 23, respectively, Applicants traverse the Examiner's rejections of claims 19-22, and consider claims 19-22 and new claims 24-27 to also be allowable as depending from allowable base claims.

With regard to paragraph 13: Applicants acknowledge with thanks Examiner's indication that claims 3-7, 19 and 20 would be allowable if written in independent form. For the foregoing reasons, Applicants believe that the new and amended claims presented to the Examiner better define the scope of protection that the Applicants believe they are entitled to.

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CONCLUSION

In view of the foregoing remarks, Applicants submit that the response herein is fully responsive to the subject Office Action, and that the pending claims are patentable over the cited prior art. Accordingly, Applicants submit that the claims are now in condition for allowance. Withdrawal of the pending rejections, and favorable reconsideration are respectfully solicited. If there are any remaining issues or the Examiner believes that a telephone conversation with Applicants' attorney would be helpful in expediting the prosecution of this application, the Examiner is invited to call the undersigned at 617-832-1175.

Respectfully submitted,

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Customer No: 25181
Patent Group
Foley Hoag, LLP
155 Seaport Blvd.
Boston, MA 02210-2600



Robert W. Gauthier, Reg. No. 35,153
Attorney for Applicants
Tel. No. (617) 832-1175
Fax. No. (617) 832-7000